

REMARKS

In the non-final Office Action, the Examiner rejects claims 1-24 under 35 U.S.C. § 101 as failing to provide a useful, concrete, and tangible result; rejects claims 1-6 and 9-28 under 35 U.S.C. § 102(b) as being anticipated by Chi et al., "Context Query in Information Retrieval" (hereinafter Chi); rejects claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Chi in view of Applicants' alleged admitted prior art; and rejects claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Chi in view of Mukherjee et al., "Automatic Discovery of Semantic Structures in HTML Documents" (hereinafter Mukherjee). The rejections are respectfully traversed.¹

By this Amendment, Applicants amend claims 1, 3, 7-10, 12, 13, 15, 17, 19, 21, 22, 24, and 25 to improve form; and cancel claims 11 and 16 without prejudice or disclaimer. No new matter is introduced. Claims 1-10, 12-15, and 17-28 are pending.

Pending claims 1-10, 12-15, and 17-24 stand rejected under 35 U.S.C. § 101 as allegedly failing to provide a useful, concrete, and tangible result. Without concurring with the Examiner's allegation, Applicants respectfully submit that amendments to independent claims 1, 10, 12, and 22 obviate the grounds for the rejection.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-10, 12-15, and 17-24 under 35 U.S.C. § 101.

¹ As Applicants' remarks with respect to the Examiner's rejections overcome the rejections, Applicants' silence as to certain assertions by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., whether a reference constitutes prior art, motivation to combine references, assertions as to dependent claims, etc.) is not a concession by Applicants that such assertions are accurate or that such requirements have been met, and Applicants reserve the right to dispute these assertions/requirements in the future.

Pending claims 1-6, 9, 10, 12-15, and 17-28 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Chi. The rejection is respectfully traversed.

A proper rejection under 35 U.S.C. § 102 requires that a single reference teach every aspect of the claimed invention. Any feature not directly taught must be inherently present. In other words, the identical invention must be shown in as complete detail as contained in the claim. See M.P.E.P. § 2131. Chi does not disclose the combination of features recited in claims 1-6, 9, 10, 12-15, and 17-28.

Amended independent claim 1 is directed to a method that includes identifying an implicitly defined semantic structure associated with terms in a document; determining whether a first relationship or a second relationship exists between a first term and a second term within the implicitly defined semantic structure; determining a first distance value between the first and second terms when the first relationship exists between the first and second terms; determining a second distance value between the first and second terms when the second relationship exists between the first and second terms, wherein the first and second distance values differ; and outputting the first distance value or the second distance value to rank the document for relevancy to a search query that includes at least the first term. This combination of features is not disclosed or suggested by Chi.

For example, Chi does not disclose or suggest determining a first distance value between first and second terms within an implicitly defined semantic structure when a first relationship exists between the first and second terms; and determining a second distance value between the first and second terms when a second relationship exists between the first and second terms, wherein the first and second distance values differ, as

required by claim 1. The Examiner alleges that Chi discloses calculating the distance values in the document based on the implicitly defined semantic structures, citing Rules 1, 4, and 6 of Chi for support (Office Action, pp. 2-3). Applicants respectfully submit that Rules 1, 4, and 6 of Chi do not disclose or suggest determining a first distance value between first and second terms within an implicitly defined semantic structure when a first relationship exists between the first and second terms; and determining a second distance value between the first and second terms within an IDSS when a second relationship exists between the first and second terms, wherein the first and second distance values differ, as required by claim 1.

Chi discloses a query operator, “in,” to be used to connect two search terms in a search query to specify the “context inclusion” between the two terms when they occur in searched documents (Chi, Abstract). Chi discloses that use of the “in” operator causes a search engine to apply a list of heuristic rules on the “detection of inclusion relation” between two terms occurring in a document, i.e., whether one of the terms is considered to be “in the context” of the other (Chi, Abstract and Sec. 4). Chi discloses that two terms either satisfy the “in” relation, or not (Chi, Sec. 5). Chi discloses that a document is “relevant,” when the “in” relation is satisfied, and “irrelevant” when the “in” relation is not satisfied (Chi, Sec. 5.1, third paragraph).

Rule 1 (“Proximity Rule”) of Chi discloses that two terms ($t1$, $t2$) that occur as “component words in a phrase” are considered to have “inclusion relation.” Assuming, for the sake of argument, that a “phrase” in Rule 1 of Chi corresponds to the claimed “first implicitly defined semantic structure” (a point that Applicants do not concede),

nowhere in connection with Rule 1 or elsewhere does Chi disclose or suggest determining a first distance value between $t1$ and $t2$ occurring in the “phrase” when a first relationship exists between $t1$ and $t2$; and determining a second distance value between $t1$ and $t2$ when a second relationship exists between $t1$ and $t2$, wherein the first and second distance values differ, as would be required by claim 1. In contrast, Chi appears to merely disclose that where a “phrase” contains $t1$ and $t2$, $t1$ and $t2$ have “inclusion relation.”

Rule 4 (“Heading Context Rule”) of Chi discloses that where term $t2$ occurs in heading text and term $t1$ occurs in corresponding body text, $t1$ is considered to be “in the context of” $t2$. Assuming, for the sake of argument, that a “heading – body text” structure in Rule 4 of Chi corresponds to the claimed “first implicitly defined semantic structure” (a point that Applicants do not concede), nowhere in connection with Rule 4 or elsewhere does Chi disclose or suggest determining a first distance value between $t1$ and $t2$ associated with the “heading – body text” when a first relationship exists between $t1$ and $t2$; and determining a second distance value between $t1$ and $t2$ when a second relationship exists between $t1$ and $t2$, wherein the first and second distance values differ, as would be required by claim 1. In contrast, Chi appears to merely disclose that where term $t2$ occurs in heading text and term $t1$ occurs in the body text, $t1$ is considered to be “in the context of” $t2$.

Rule 6 (“Table Context Rule”) of Chi discloses that where either 1) term $t2$ occurs in a caption of a table and $t1$ occurs in the table, or 2) $t2$ occurs in a table heading and $t1$ occurs in corresponding table data, $t1$ is considered to be “in the context of” $t2$.

Assuming, for the sake of argument, that a “caption – table” or “table heading – table data” structure in Rule 6 of Chi corresponds to the claimed “first implicitly defined semantic structure” (a point that Applicants do not concede), nowhere in connection with Rule 6 or elsewhere does Chi disclose or suggest determining a first distance value between $t1$ and $t2$ associated with the “caption – table” or “table heading – table data” when a first relationship exists between $t1$ and $t2$; and determining a second distance value between $t1$ and $t2$ when a second relationship exists between $t1$ and $t2$, wherein the first and second distance values differ, as would be required by claim 1. In contrast, Chi appears to merely disclose that where either 1) term $t2$ occurs in a caption of a table and $t1$ occurs in the table, or 2) $t2$ occurs in a table heading and $t1$ occurs in corresponding table data, $t1$ is considered to be “in the context of” $t2$.

For at least these reasons, Applicants respectfully submit that claim 1 is not anticipated by Chi. Claims 2-6 and 9 depend from claim 1 and are, therefore, not anticipated by Chi for at least the reasons given with respect to claim 1.

Amended independent claims 10, 12, 22, and 25 recite features similar to (yet of possibly different scope than) features recited in claim 1. Claims 10, 12, 22, and 25 are, therefore, not anticipated by Chi for at least reasons similar to the reasons given above with respect to claim 1.

Claims 13-15 and 17-21 depend from claim 12 and are, therefore, not anticipated by Chi for at least the reasons given with respect to claim 12.

Claims 23 and 24 depend from claim 22 and are, therefore, not anticipated by Chi for at least the reasons given with respect to claim 22.

Claims 26-28 depend from claim 25 and are, therefore, not anticipated by Chi for at least the reasons given with respect to claim 25.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-6, 9, 10, 12-15, and 17-28 based on Chi.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Chi in view of paragraph 5 of Applicants' specification. The rejection is traversed.

Claim 7 depends from claim 1. Without acquiescing that paragraph 5 of Applicants' specification constitutes prior art, Applicants submit that paragraph 5 of Applicants' specification does not cure the deficiencies in Chi noted above with respect to claim 1. Claim 7 is, therefore, patentable over Chi and paragraph 5 of Applicants' specification, whether taken alone or in any reasonable combination.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 7 based on Chi and paragraph 5 of Applicants' specification.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Chi in view of Makherjee. The rejection is traversed.

Claim 8 depends from claim 1. Without acquiescing in the Examiner's rejection with respect to claim 8, Applicants submit that Makherjee does not cure the deficiencies in Chi noted above with respect to claim 1. Claim 8 is, therefore, patentable over Chi and Makherjee, whether taken alone or in any reasonable combination.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 8 based on Chi and Makherjee.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request the Examiner's reconsideration of the application and the timely allowance of the pending claims.

While the present application is now believed to be in condition for allowance, should the Examiner find some issue to remain unresolved, or should any new issues arise which could be eliminated through discussions with Applicants' representative, then the Examiner is invited to contact the undersigned by telephone in order that the further prosecution of this application can thereby be expedited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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Date: March 30, 2007

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